National Aeronautics and Space Administration

COMMERCIAL CREW

LAUNCH AMERICA

Commercial Crew Transportation

NASA's Commercial Crew Transportation Capability (CCtCap) contracts bring the United States one step closer to launching crew. Commercial transportation to and from the International Space Station (ISS) will provide expanded utility, providing for additional research and discovery on the orbiting laboratory. The ISS is critical for NASA's continued research for understanding and overcoming the challenges of long-duration spaceflight necessary for the journey to Mars.

Goal: Facilitate the development of U.S. commercial crew space transportation systems to provide safe, reliable, cost-effective access to and from the ISS and low-Earth orbit from America.

- Transport pressurized scientific research and cargo and increase the station crew, enabling twice the amount of scientific research to be conducted.
- By encouraging private companies to provide human transportation services to and from low-Earth orbit, NASA can expand its focus on building spacecraft and rockets for deep space missions on our journey to Mars.

Safety:

- Crew safety is paramount.
- Systems must meet NASA's rigorous safety standards for human spaceflight.
- Robust NASA insight into safety and performance.

Multiple Contract Awards:

- Competition results in most cost-effective and safe systems and provides critical redundancy.

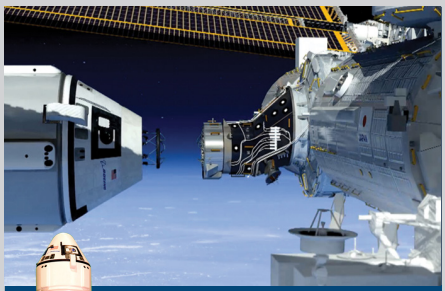
Contract Terms:

- FAR-based firm, fixed-price contracts; both providers must meet the same NASA requirements.
- Components:
  - Certification: Five mandatory milestones, including a crew flight test to ISS with a NASA astronaut to validate system performance.
  - Post-Certification Missions (PCMs): Five mandatory milestones; guaranteed order of two missions per award; maximum order of six missions per award.
  - Interim Milestones: Each contractor proposed additional milestones to demonstrate meaningful progress in the development and certification of its crew transportation system.
  - Special Studies and Analyses

FY 2016 Budget Request:

The FY 2016 request of $1,243.8 million for commercial crew is critical to program execution; if less funding is received NASA will need to delay milestones for both providers, resulting in possible contract cost adjustments and delays in certification.

PROVIDERS



Boeing

Spacecraft: **CST-100**

Launch Vehicle: **ULA Atlas V**

Height: **171 Feet**

Launch Pad: **Space Launch Complex 41**

Destination: **International Space Station**

Maximum potential value: **$4.2B**

SpaceX

Spacecraft: **Crew Dragon**

Launch Vehicle: **Falcon 9 v1.1**

Height: **208 Feet**

Launch Pad: **Launch Complex 39A**

Destination: **International Space Station**

Maximum potential value: **$2.6B**

Commercial Crew Program

Astronauts

Veteran NASA astronauts training to fly the first U.S. Commercial Crew test launches.

Cost-Effective

Developing safe, reliable crew transportation to ISS that reduces reliance on foreign systems.

SPACEX CREW DRAGON & BOEING CST-100

$58 MILLION
per seat

RUSSIAN SOYUZ

$81 MILLION
per seat

After certification, the U.S. will have developed two new, independent, human space transportation systems for less than $5 billion.

Focus on Science

2X
more time for research

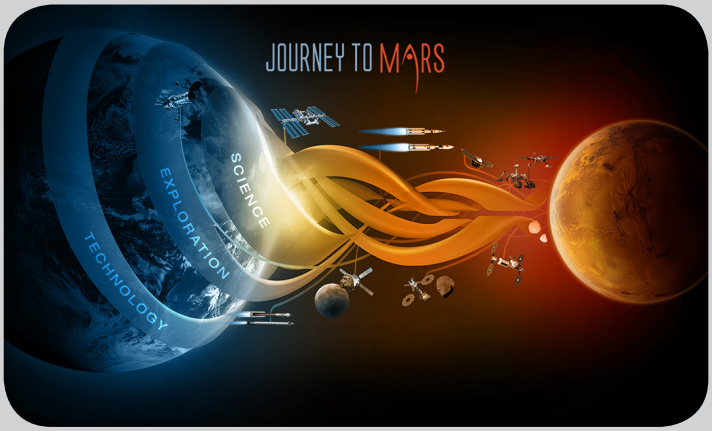
NASA requires these spacecraft to carry 4 crew members, enabling the U.S. to expand the ISS crew to 7 astronauts and cosmonauts.

It only takes 6 crew members to maintain the ISS, so an extra person translates to 40 additional hours of crew time per week for research in Earth, space, physical and biological sciences to advance scientific knowledge for the benefit of people living on Earth.

Transforming Human Spaceflight for Future Generations.

Journey to Mars

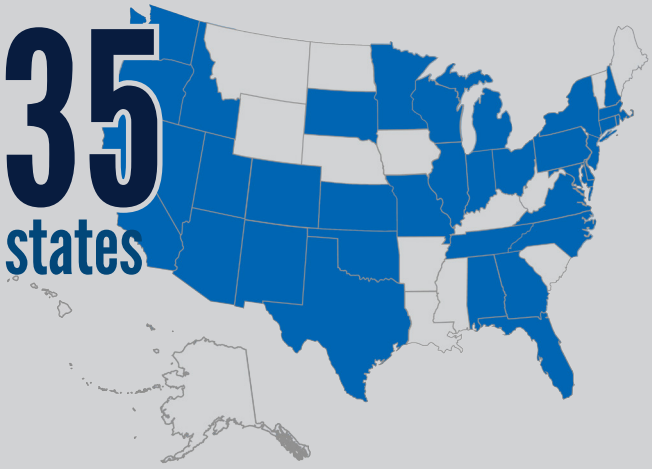
By turning over low-Earth orbit flights to the commercial aerospace industry, NASA can pursue the challenges of deep space exploration and our journey to Mars.



American Ingenuity

Lowering the cost of access to space and enhancing the U.S. economy.

35 states



More than 350 companies across 35 states are applying their most efficient and innovative approaches to get astronauts back into space on American-led spacecraft and rockets.

These American companies have flexibility in the design and development of state-of-the-art U.S.-based transportation systems to low-Earth orbit for NASA and other customers.

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